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P. W **DEPARTMENT**

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Subject:—Chief Engineers' Conference Proceedings of- held at Delhi in Nov. 1946

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Date.	To whom sent.	Notes and instructions.

GOVERNMENT OF ~~M~~INDIA.
Transport Department.
OFFICE OF THE CONSULTING ENGINEER (ROADS).

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No. PL-12(111) Jamnagar House, New Delhi,
Road Development in India.

Summary of the proceedings of the MEETING OF CHIEF ENGINEERS held on the 26th and 27th Novr. 1946 at Jamnagar House, New Delhi.

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Present.

Mr. G.AdD. Cochrane, O.B.E., I.S.E.,
Consulting Engr. (Rds.) to the Govt. of India. Chairman.
Mr. J. Chambers, C.I.E., O.B.E., M.C., I.S.E. (Bengal).
Mr. C.G. Kale, C.I.E., I.S.E. (Bombay).
Shri B.N. Sheney, Superintending Engr. (Highways), Madras.
Mr. H.A. Harris, I.S.E. (Punjab).
Mr. H.K. Nivas, I.S.E.,
Special Officer, Post-war Planning, (Bihar).
Mr. S.N. Chakravarty, O.B.E., I.S.E. (United Provinces)
Mr. W.B. Calder, I.S.E.
Superintending Engr., Communications (Sind).
Lt. Col. W.G. Lang-Anderson (N.W.F.P.)
Mr. F.E. Cormack, I.S.E. (Assam) on 27th only.
Rai Bahadur M.S. Mathur, C.I.E., I.S.E., Additional Chief Engr., Central P.W.D., New Delhi.
Mr. K.S. Raghvachary, Dy. Consulting Engr. to the Govt. of I. (RDs).
Colonel R.S. Dalby, O.B.E., Materials and Plant Officer, Rds. Organisation, Govt. of India.

By invitation.:

Mr. M. Zinkin, I.C.S., Finance Deptt., Communications, Govt. of India.
Lt. Col. C.M. Singer, R.E., General Headquarters (India). Engr. in-Chief's Branch, New Delhi.

NOTE:- The provinces of C.P. and Berar. and Orissa were not represented.

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1. National Highways - Works (Development).

Note:- A copy of the conclusions of the Chief Engineers' Meeting, as reported to the Ninth Meeting of the Transport Advisory Council (which was held subsequently) is reproduced as Appendix I.

(a) Works Programmes. These, in general, were being recast by the Provinces so as to limit the 5-year expenditure (plus those of the interim period ending 31st March 1947) to ---

and, through their individual figures, arrived at a gross figure of roughly Rs.450 lakhs for expenditure on National Highway works in Governors Provinces, Chief Commissioners Provinces, and certain States (for works to be carried out by the Central Public Works Department). This represents only 15 per cent of the 5-year gross target figure (Rs.3000 lakhs).

(iii) The importance of ensuring that the funds necessary for implementing the programmes would be forthcoming was stressed by all. The finance representative present was confident that, subject to the outcome of the coming meeting (28th and 29th November) of the Transport Advisory Council, and the ratification of the National High ways scheme by every Province, the necessary funds, for the ensuing year at least, would be voted by the Legislative Assembly at its Budget session in January next. Arrangements for putting the work in hand could therefore be proceeded with confidence.

(c) Estimates for works in 1st year's programme. (i) It was agreed that project estimates for road works would be prepared on a short-term basis in view of the uncertainty in regard to the future rates, labour conditions etc. There should be no objection to framing estimates separately for parts of a large project that was likely to take some years to finance and carry out. Where, however, the work formed an integral initial part of a scheme involving entire new construction or whole sale reconstruction and the execution of that part would create a liability for the whole, it would be necessary to give a financial and technical picture of the complete project. Thus, whereas simple widening, improvements to curves etc. could be dealt with finally in convenient sec-

tion---

section lengths without implicating other sections, a new road would have to be designed and estimated in fairly full detail, and the proposals approved in the broad, before, say, the land and earth work requirements could be extracted into a short-term estimate. In the case of, bridges, such split-up would not be feasible as in all ordinary circumstances the contract would have to be let for the bridge as a whole.

(ii) Some members demurred against the decision reached at the 8th T.A.C. meeting (page 62 read with page 185 of t the Printed Proceedings) whereby individual proposals and estimates were to be subjected to the technical approval of the Consulting Engineer and the financial sanction of the Government of India, but on the analogy of the adage that the one who pays the piper is entitled to call the tune there was general, though somewhat reluctant, bowing to the inevitable.

(d) Progress during the interim period (1946/1947). Works and investigations to the gross value of some Rs. 98 lakhs had already been approved for execution in whole or part during the current year. The members concerned would inform the Consulting Engineer the state of progress and the probable expenditure during the current year. (Monthly progress reports are desired by the Consulting Engineer.(Roads).

(e) Process of development. Subject to the availability of the necessary constructional resources, the bridging of unbridged streams should ordinarily take a high place in the priority list. In the case of road works, new roads, i.e. development in length, should come first, even if only to an unsurfaced specification attention to widening and improvement of the lay-out (geometric) standards---

standards should come next and the provision of higher class surfaces, involving more capital cost per unit area, should ordinarily be undertaken last except where such provision was fully justified by the traffic conditions, inherent maintenance difficulties, and long-term economies.

(f) Avoiding the creation of conditions favourable to the spread of malaria. The members were informed of the deliberations of the committee that had been sitting in New Delhi.

Construction work on roads, railways, and irrigation could lead to the creation of conditions favourable to the spread of malaria. Feeling that the problem should be tackled before the trouble arose the Public Health Commissioner had convened a Committee (which included the C.E.R.) to investigate how best to advise construction agencies in this vital matter. So far as roads and railways were concerned, the potential sources were to be found in borrow pits, cutting in the foothills, and the siting, adequey and design of the means for the disposal of drainage water. At the same time, attention had to be given to safeguarding the survey and construction staff and to the location and protection of the labour camps. Precautionary measures would undoubtedly lead to extra cost but its incidence would be reduced by careful planning and meticulous inspection. While awaiting the Committee's report the Members agreed to keep the matter continuously in mind and, when the Government of India had expressed their views (insofar as they concerned National Highways) would consider what technical instruction---

instructions should issue in regard to Provincial road works.

2. National Highways-Maintenance

(a) The main points for consideration were:-

(i) Maintenance estimates.
(ii) Budget demand for 1947/48.

(b) In regard to (i) the Chief Engineers felt that the Centre should not interfere in the detailed estimates. The Provincess would report the milage rates by suitable sections of road and would satisfy the Consulting Engineer (Roads) as to their suitability. Not all Provinces had "road-year" coinciding with the financial, year, with result that some annual maintenance estimates covered parts of two financial years. The Centre should be satisfied with budget demand figures (as amended from time to time), i.e., estimates of funds requirements as against estimates of cost of physical processes.

(c) The demands would be split up under the main heads:-

A-Repairs, Ordinary;
B-Renewals;
and C- Repairs, Special (excluding Renewals.).

The first would cover the usual "fixed" charges: the second the variable representing the extent to which renewals were to be effected during the year, and the third the cost of repairs necessitated by extraordinary circumstances, e.g. damage by floods.

(d) The members considered a draft form of chart in which demands for funds could be submitted, and which gave information of statistical value. It was agreed that some such form might be developed and tried out (Appendix I.).

(e) In regafd to (ii) the Chief Engineers furnished rough figures, on the understanding that these might be subject to some change. Including the requirements of the Central ---

Central Public Works Department and an estimated demand for Chief Commissioners' Provinces, the gross figure of requirements for the maintenance of National Highways, during 1947/48, amounted to Rs.246 lakhs.

(Note:- Major States are expected to provide their own funds separately).

3. Tolls on National Highways.

One of the conditions of the National Highway scheme was that tolls would not be levied on National Highways save in exceptional circumstances and with the express sanction of the Central Government [Para 6(v) of War Transport Department letter No.PI 13(20), dated 14/9/1946 reproduced at page 63 of the Printed Proceedings of the 8th T.A.C.Meeting.] The Assam Government wanted to know the Central Government's policy in regard to the bridges and ferries on which tolls were already being levied. It was decided that each case would have to be considered on its merits and that, to enable this to be done, Chief Engineers (or Provincial Governments) would furnish individual details and recommendations. [A memorandum by Consulting Engineer (Roads) is proposed to be circulated shortly, as the matter has statistical interest also.]

4. National Highway Approaches to large Towns. The Central Government's proposal to limit their liability up to the outer Ring-or By-pass was discussed, chiefly with the object of the "clearing the air". The matter was to be brought up at the Ninth T.A.C. meeting on the succeeding days. Whatever the eventual agreed policy might be, it was evident that each case would present a separate problem the Patna by-pass was an example.

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5. Cadre of Engineer Consultants (Liaison Engineers)

(1) Some Provinces had reacted favourably to the proposals contained in War Transport Department letter No.PL-2(25), dated 22/8/1946; others had not. The Chief Engineers felt that the soubrique "Consultant" would lead to friction with Provincial engineers of equivalent rank, while doubt was expressed as to the intention behind the phrase "to inspect works." On the other hand, it was agreed that a man of the right temperament could provide useful assistande to the Chief Engineer while fulfilling his responsibilities to the Consulting Engineer (Roads). The Consulting Engineer (Roads) explained that main inspections would be carried out by senior men, as it was proposed that the cadre would eventually include men of ranks equivalent to Divisional Engineer and Superintending Engineer.

(2) It was decided to suggest that the name be changed to Engineer Liaison Officer, or in the case of the Junior men, Assistant Liaison Engineer, and that their duties be expressed somewhat differently than had been done in the letter. The C.E.R. reported that 3 officers of assistants rank had just been posted and would be reporting for duty in the near future, one each to Bihar, Assam, and the C.P. and Behar. (The men concerned were introduced to their respective Provincial representatives).

6. Provincial Programme of Road Development. (1) The C.E.R. stated that he had noted with some concern, from press reports and elsewhere, that certain Provinces were considering reducing by a substantial percentage their 5-year expenditure programmes for Provincial road development works. The cases of Madras, Bombay and Orissa had come to notice, while Bengal appeared to be uncertain. In deriving the tentative gross figure of 5-year---

5-year allocation for National Highway development viz. Rs.30 crores, the Government of India had assumed, among other things, that Central expenditure on such work could suitably be about 15 percent of the total value of all the expenditure of road development, Provincial and Central together. Any appreciable reduction in the Provincial programmes would upset that assumed "balance" and may conceivably react adversely on the final allocations for National Highways between the Provinces.

(2) The Punjab representative said that, far from reducing their provincial road programme, his Government had agreed to raise the figure. The representatives from Bihar, U.P., Sind, Assam and N.W.F.P. were confident that the fitures that had been communicated to and accepted by the Development Board earlier in the year would not be reduced. The Bombay Government appeared to be desirous of giving the highest priority to the construction of village roads. If this implied the complete exclusion of work in the class A roads, the result might be somewhat unbalanced, but it was too early to say to what extent. The Chief Engineers mentioned the difficulties attendant on the satisfactory maintenance of village roads and stressed the importance of developing a system and providing the necessary staff to ensure that money put into a large milage of village roads at this stage would not be wasted through lack of competent attention to maintenance.

7. Engineer and Technical Subordinate staff.

While it would be some time before the staffs could be brought up to the required strength in numbers, experience and ability, the situation showd some gradual improvement in most Provinces. A great deal depended on the terms offered, particularly scales of pay and security of tenure. Appendices III and IV show the scales of pay---

current and proposed in the various provinces. (N.B. The scales for Engineers are subject to check.)

8. Education of the Engineer with special reference to Highway Engineering. Discussion covered existing facilities for technical education and training. Mr. S.R. Sen Gupta, Secretary, All India Council for Technical Educations joined in the deliberations. The general opinion was to the effect that specialisation in highways should be deferred until at least the 4 year of a civil engineering course and should run for at least 2 years. Most Provincial P.W.Ds. required a degree of flexibility in the Technical equipment of their engineers. Practical training was of the utmost importance and might conceivably take the place of collegiate post-graduate studies. Provinces may have to provide stipends to selected degree holders to enable them to undertake further training. This implied some form of guaranteed appointment on a probationary basis. Overseas training of students was to be encouraged, though it could not entirely take the place of a through training under Indian conditions.

The whole question had been and remained under examination by the Education Sub-Committee of the I.R.C., and the All-India Board of Technical Studies in engineering and metallurgy.

9. Overseas deputation of Indian road engineers. (1) Two members of the first deputation of 22 engineers had just returned to India, and most of the others would be arriving on the 12th December. Extracts from the periodical reports received in the C.E.R's office had been furnished to the Chief Engineers. A complete report was being drawn up. The leader of the deputation would be associated with its preparation. The final reports of the authorities in the U.K.--

U.K.and U.S.A. were awaited .

(2) On the information before the meeting it was agreed that thex scheme showed promise or being a great success. The Chief Engineers noted with satisfaction that arrangements were in hand to send out a second deputation of like nature in 1947. They agreed to analyse the 1946 results as quickly as possible xxxx and communicate suggestions to the C.E.R. for incorporation in the 1947 scheme.

10. Labour (1) Experiments in the employment of demobilised personnel on road works had so far proved a failure no matter what organisation was administering. The present tendency was now towards the establishment of co-operative units of building operatives, generally by trades, the unskilled workers acting in conjuction with the skilled. Group eomplyment had been successful in one road job in the Kf the reason being that the men were mostly professional civil labourers used to that type of work.

(2) The Chief Engineersxxx agreed that no further action need be taken to organise special labour units for employment on road works as there appeared to be no chance of the supply exceeding the demand in any locality, and where a demand arose it would be met by the ordinary process of recruitment as had been the practice in the past. The group employment scheme was virtually unworkable and doomed to failure.

(3) The settlement of demobilised personnel might conceivably become a problem, but, provided the requisite administrative machinery was in existence, the problem could be xx met when it arose. There was no point in trying to press such men into labour units. The co-operat' schemes could probably be suitably applied to, sa work---

work, brick-making, or other semi-skilled trades, but stood little chance, without heavy subsidies, of competing successfully on road works against ordinary casual forms of employment. Provided, however, the extra cost did not fall on the road authority, there was no serious objection to such schemes being tried out.

(4) With regard to the fair wage clause that was being introduced into most P.W.D. contract forms, general opinion was that so far it had produced no undesirable repercussions.

(5) The Punjab Government were investigating a proposal to introduce a system of licensing of contractors for works of certain types.

11. Rail road Bridge Standards. The Punjab representative referred for consideration the drawing No. CSO/CH 754 not reproduced here of the Central Standards Office (Railways) showing proposed details of guard rail expansion joint and flooring on common-deck bridges. After brief discussion it was agreed that the matter could be left to the Standards committee of the I.R.C.

12. Railway level Crossings. (1) The Sind representative raised the general case of the respective responsibilities of the road and railway authorities in the installation, operation, and modification of level crossings. The rules framed under the Railway Act stipulate as a general condition that level crossing gates should normally remain "open" to railway traffic and "closed" to road traffic. He felt that this was wrong in that, amongst other things, it placed on the road authority the financial liability for employment of extra gate keepers in the event of road traffic increasing to above that envisaged when the crossing was installed.

installed
~~Instulated~~, whereas if the gates had normally to remain "open" to road traffic (as, in his opinion, they should) the responsibility would fall on the railway authorities. A second point was that the N.W.Railway had built railways across some of the roads in Sind without reference to and and the prior approval of the Provincial Government.

(2) The members were somewhat divided in their opinion the general feeling being that the difficulties appeared to be peculiar to Sind.

(3) The Sind representative was requested to refer specific instances to the C.E.R. who offered to take them up with the Railway Board to the extent that they warranted.

13. Experiments on Bullock Cart wheels. (1) The Consulting Engineer (Roads) described what was being done in Provinces, and for the purpose of carrying out experiments on the Road Test Track at Calcutta. The Chief Engineers agreed to do what they could to assist the investigation though their staff would have little or no time available for the purpose. The Madras representative was of the opinion that improved roads meant the ousting of the bullock cart in favour of motor transport on main roads, and the automatic removal of the problem created by the bullock cart wheel. In the Punjab it had been found that iron tyres were going out of favour, mainly for the reason that, on the good tarred roads, the wear life of a wooden rim was now almost the same as the life of the rest of the timber comprised in the wheel. Another influencing factor had been the high price and scarcity of iron consequent on war conditions.

(2) A new campaign for popularizing the use of pneumatic tyres on carts was now in made possible by the fact that som many old motor vehicles were being put on to the disposals--

disposals market. Camel and donkey carts in and around Karachi had mostly been converted to rubber tyred already.

14. Road-making machinery and Instruments.

(a) Machinery from the Disposals Directorate. Col. Dalby described the history of the case up to the time the representatives of Provinces were invited to Calcutta in July 1946 to select their requirements from the surplus stocks and make their purchases. The Chief Engineers expressed general dissatisfaction with what had transpired as a result of that visit. Some were still waiting for most of what had been ordered. Of the tractors received by Sind from this source at least one was a different machine from the one that had been selected. It was felt that so far as surplus road making machinery was concerned the benefits derived from the Disposal Directorate had failed to come upto expectations.

(b) Mathematical Instruments from "Disposals". Nothing tangible had resulted from the indents placed by Provinces on "Disposals", and it was not improbable that some of the indents had been lost sight of. It was agreed that all outstanding indents should be reviewd and specific reminders be issued to the Disposals Directorate. If copies were sent to the C.E.R. his office might be able to assist in furthering the process, but the first thing he wished to know was the actual extent of the outstandings. In view of what had happened on the bulk Roller purchase scheme, the Transport Department of the Government of India would not sponsor a scheme for the bulk purchase of instruments. It was likely that the scale of Army surplus in these instruments would be canalised the D.G.M.P. on Form No. W.S.B.67 and still outstanding may or may not have been passed on to the H.I.O., but some of the demands were---

were in the nature more of forecasts than firm indents. The C.E.R.'s office might be able to assist the Chief Engineers if it was put into possession of the facts as to indents (with dates), the supplies made against these indents and the current out-standings.

(c) Progress on the Road-Roller Central Bulk Supply Scheme. Col Dalby referring to the memorandum (Appendix V) described the progress and present position. The export programme of ready rollers from U.K., U.S.A. and Australia was being interfered with by shipping troubles and strikes. Complete, and partial, manufacture in India was in progress but there were no immediate prospects of outturn from this source.

(d) Australian Road-Rollers. Col Dalby had just returned from Bombay where he had inspected some of the malcolm-moore (Australian) rollers, 37 of which had reached India out of the bulk order for 250 Nos. The Fordson engines were designed to run most efficiently on vaporising oil (sometimes called "Power Kerosine") successfully on High Speed Diesel oil, on lighting kerosine, and, by a minor modification, on ordinary petrol. He thought they were a good job. The consumption of kerosine appeared to be about 1 to 1½ gallons per hour.

(e) Need for supporting the bulk order Scheme. It had to be made clear that although the firm indents placed so far by States and Provinces, totalled only about 1500 rollers, the forecast of the requirements up to 1950 or so amounted in all to some 3000. It was on this figure, and with the object of assisting the road authorities to get their requirements met within reasonable time, that the Government of India had sponsored the purchase (by the I.& S.Department) of a total of 2257 rollers. Thus--

Thus there was shortage against forecasts thought not against indents. It was hoped that Provinces would not go into the market for their requirements over and above the indented figure until the extra blanket demand had been absorbed by firm indents being placed by Provinces and States on the I. and S. Department. It was for this reason that licences for the import of new rollers otherwise than through the Bulk supply scheme were being refused, coupled with the fact that it was necessary to support the efforts that were being made to build up an indigenous roller manufacture industry. It seems most probable, too, in view of the shipping difficulties that any importation of road rollers otherwise than against the Central Bulk Supply scheme would delay the full-filling of the orders that had been placed under that scheme

The arguments were generally accepted by the Chief Engineers.

Consideration was also given to the question of reducing the demand for road rollers in consequence of the reduction that was to be made in the intensity of the 5-year road development programmes in some of the Provinces. The C.E.(Roads) stated that it did not seem possible to get the I.& S.Department to cancel any of the orders they had placed but that pressure could be brought to bear on the matter of time limits; any undue postponement of the delivery dates would hit at one of the funda-mentals which had justified the placing of the bulk demand

(f) As regards the <u>return of rollers loaned</u> to M.E.S. and C.P.W.D. for use on military works, the Bihar rep - representative--

representative stated that only 99 had been returned out of 109. Col. Dalby explained the position.

(g) Other road-making machinery. The demand was still very light and, except in regard to the demands placed on "Disposals", there were no special difficulties at present.

(h) Motor Lorries-P.W.D.Policy. It was elicitated various schemes were in operation, or were being evolved in the Provinces for the use of M.T. on P.W.D. road works. Each Chief Engineer or representative agreed to furnish a note describing the present position and policy. The main fact that emerged was that the use of M.T. on works was expanding, and ~~that of carts (which remain relatively expensive except on short and~~ that of carts (which remain relatively expensive except on short leads) was increasing.

15. Engineering Resources-Demand and Supply.

(i) Rough estimates had been made out in C.E.(R)'s office of the All-India demand, for use on road works, of cement, steel, coal, tar and bitumen.

~~(ii) Rough estimates had been made out in C.E.(R)'s office~~
(ii) It appeared certain that the cement factories could meet the potential demand though deficit areas might have to be fed from surplus areas lying at a distance, where transport may prove to be a bottleneck. A Road Cement Panel had been set up chiefly with the object of examining ways and means of bringing down the cost of cement concrete without impairing its quality. Forecast figures of consumption on roads had been called for from Provinces in that connection.

(3) Steel appeared likely to be in short supply. Each Province was to be given a quota and it was up to the road--

road engineers to place their demands early and thus obtain an equitable share of what was going. The C.E.(R)'s office would be glad to hear of any difficulties and would endeavour to assist in removing them. A word of warning was necessary in regard to the re-rolled steel that might come on to the market as reinforcement bars; it was not always realiable.

(4) In regard to coal, the bottleneck appeared to be rail transport, not production. Wagon facilities were war, however, gradually improving and provided allocations were made on a fair basis the situation should ease considerably as time went on.

(5) The output capacities of the indigeneus bitumen and tar factories were ample to cope with any reasonable demands though war arrears of maintenance would cause a temporary strain.

16. High Highway Standards.

(a) Horizontal curves. Proposals had now been finalised by the Specification and Standards Committee of the I.R.C. They would be published in Journal and brought forward for discussion and acceptance at the Trivandrum session in February next. Copies of the abstract were distributed to the representatives.

(b) Land widths. The members discussed the contents of the C.E.(R)'s letter No.N-1(12) dated 13/11/45, and ~~ex~~ of the I.R.C. Committee's memorandum dated 8/10/46 attached their to (Not reproduced here) It was agreed that where "control of use" could be exercised by law the widths of land to be permanently acquired could be somewhat less than those envisaged in the Nagpur Report, more especially where land was expensive the financial aspect demanded very careful consideration. The U.P. representative stated--

stated that his Province was working on the following figures:-

Classification.	Width of land to be acquire.	Controlled width.
Provincial Highway ~~Mx.Major Dist. Rds. Major Dist.~~	100 feet	250 feet
Roads .	80 "	
Other Dist. Rds.	60 "	
Village Roads.	25	

No final conclusions were reached but the general reaction was to accept the proposals contained in the letter and memorandum mentioned above.

(c) Cement Concrete Pavements -Data form. The proposed Standards Form (Appendix VI) was considered and accepted.

(d) Method of expressing milage. There was some variation in the Provincial methods of expressing road milages on paper. For instance the first furlong of the first mile of a road was variously expressed as M.0/0; M.0/1, and M.1/1. It was desirable to come to some uniformity on this matter. The majority of the provinces being in favour of the first type (i.e.M.0./0) it was agreed that the remaining provincess might consider changing their present system accordingly.

(e) Numbering of Crossings. Here again the practice varied in different Provinces. In some the crossings were numbered serially; in others the serial numbers applied only to each mile, while some Provinces relied on a milage number, e.g. M.4/L with suffixes A, B, C etc. where there were more than one crossing in the same furlong. The matter will be considered by the Standards Committee of the India Roads Congress.

17. Road and Road Traffic Statistics. Their importance or statistics in the matter of road planning and development was becoming more evident every day. The C.E.(R)'s office ---

office now possessed a Statistical organisation which could compile, collate and analyze such statistical data as was supplied to it, and attempt to derive practical conclusions therefrom. A certain degree of standardistion was necessary in the method of collecting and expressing the data, so that the derivative

The Chief Engineers agreed to co-operate with the C.S.(R) in these efforts, with the stipulation that the purposes and objects should invariably be stated when statistical information was called for.

18. Road Research. The location of the Central Roads Research Institute was still uncertain. New Delhi had been proposed but the Council of Scientific and Industrial Research de-sired to consult the Provincial Chief Engineers.

The U.P.Government have recently opened a Road Research laboratory at Lucknow, while the Bombay Government were pursding a proposal to set up a Road Test Track attached to the College of Engineering at Poona. The activities of the Punjab Soil Research laboratory continued; engineers and subordinates from other Provinces were undergoing training there, and the authorities were receiving increasing requests for the analysis of soil samples. Mr. Chambers (Bengal) informed the meeting that so far as concerned soil mechnics, the Road Research labouratory at Hammondsworth, U.K., were paying special attention to the fundamentals of soil composition.

19. Indian Roads Congress, Trivandrum Session-Junior Delegates. The Central Government had agreed to meet half the cost of T.A. and delegation fees of the Provincial and States' engineers of 5 years service and under

who attended the next I.R.C. Session (February 1947). Expressing appreciation of this action the C.Es. agreed to send, with the concurrence of their governments., as many delegates as could be spread.

20. Secretaries to Government in the P.W.D. The Chief Engineers recorded the following resolutions:-

It is the unanimous opinion of the Chief Engineers that in the interest of greater efficiency of administration and smooth and expeditious execution of road works, the Chief Engineers in charge of such works should also be the Secretaries to Government in their respective Provinces.

Sd/- G.A.D. Cochrane
Chairman of the Chief Engineers Meeting.

Enclosures:-

Appendices.

I = Conclusions of the Chief Engineers meeting as reported to the Ninth T.A.C. meeting.
II= Form of chart showing demands for funds for maintanence of N.Hs.
III= Statement showing the scales of pay sanctioned for Superior Engineering Services other than ISE.
IV= " -do- -do- of Technical Subordinate Services.
V= Note on the Road Rollers Bulk-procurement Scheme
VI= Form for recording data about Cement Concrete Pavements.

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Consulting Engineer (Roads) to Government of of India-Transport Deptt., New Delhi.

No. PL 12(111

Conclusions of the Chief Engineers' Meeting on 26th and 27th November so far as they concern National Highway policy and administration.

As reported by the consulting Engineer (Roads) at the Transport Advisory Council; 9th Meeting held on the 28th and 29th November 1946, on item (iii) of the Agenda.

The Chief Engineers have spent two strenuous days discussing the subject of Road Development in its administrative, financial and technical aspects, both as a homogeneous whole and separately with special reference to the National Highways scheme. They stress the patent facts that construction and development of National Highways must go hand in hand with the construction and development of the Provincial road system, and that any uncertainty as regards the one will have unfavourable reaction on the progress of the other.

2. Some of their recommendations and conclusions relating to National Highways have equal application to the Provincial programmes; a condition that is inevitable when the two schemes are looked upon as parts of the same entity having the same object.

3. In regard to matters that influence planning and progress of road development as a whole, including national Highways, the Chief Engineers desire to mention the following points in particular:-

(1) They view with disquietude the continued uncertainty as to the retention of the Central Road Fund, and they can but hope that the Central Government will---

will in the near future reach a decision that accords with their views in the matter.

(2) They stress the importance of having their road finances assured, preferably on a long term basis, but at least over the period ending March 1949.

(3) In the matter of Engineering resources the situation in regard to cement, tar and bitumen appears to be not unfavourable, whilst there are ~~xxxxx~~ prospects of the coal supplied being improved as more wagons become available. The Chief Engineers are, however, perturbed by the position in regard to steel and would request that steel required for the construction of essential bridges should be given a high priority from the Provincial allocations or otherwise.

(4) They realise that large scale construction works could create conditions favourable to the spread of malaria and will associate themselves whole-heartedly with the practical porposals that will militate against this problem.

(5) They report that motor transport is supplementing the bullock cart to a greater and greater degree in the carriage of road materials and they greatly favour this change.

(6) They express their great satisfaction at the seeming success of the first deputation of Indian Road Engineers overseas and they look forward with pleasurable anticipation to the men's return to their Provincial duties. They are glad to know that the experiment is to be repeated in 1947.

(7) After considering the various schemes that have been tried for the resettlement of the ex-service personnel, the Chief Engineers are of the opinion that there is no pressing---

pressing necessity for the introduction for the introduction of especial schemes for the recruitment and employment of organised labour on road works, except in so far as such was always necessary in the form of departmental working with volunteer recruited labour.

(8) The Chief Engineers reiterated their appreciation of the importance of traffic statistics and traffic surveys.

(9) They also stress the vital necessity of road research and the desirability of the Centre accepting a share in the cost of Provincial set ups as a separate identifiable liability in order to ensure that the financial requirements of the Provincial road research organisation are adequately protected.

(10) They agree as to the importance of the subject of land for roads, the necessity for legislation for control of use, and for the fixation of reasonable figures for road land widths, building lines and controlled area limits.

4. With special reference to National Highways Chief Engineers made the following points:-

(1) Whatever difference of opinion there may remain as to the question of transport coordination, it should not be such as to leave any gaps in the National Highwaym road plan.

(2) Funds and resources being somewhat limited at the present time the general scheme of priorities should be first bridging the unbridged streams, second development inlength, width and safety features. Except where such are justified by traffic conditions, inherent maintenance difficulties and long term economies, conversion of ordinary type surfacings to high grade types should be deferred for the time being.

3) The Centre's proposal to establish a cadre of Engineer ~~xxxxxxxx~~ Consultants---

Consultants was discussed at length. The Chief Engineers' came to an unanimous conclusion that provided their title is changed to one more suited to their duties and their functions are expressed in such a way as will not give offence to the local engineers, the scheme is fundamentally sound.

(4) The Chief Engineers would desire a decision as to the future of the existing system of collect of tolls on bridges and ferries on National Highways. In-as-much as a decision may take some time in each individual case they ~~suggest~~ suggest that the existing situation be allowed to continue for the present.

(5) After considerating the probable demands for funds by individual Provinces for the ensuing year, it was agreed that a gross figure of approximately of Rs.450 lakhs would be required for works on National Highways in 1947/48.

(6) Certain Chief Engineers are keen on obtaining an early decision on the question of National Highways in States, where such highways are now being maintained by and at the cost of their department, or where early development by their Agency is deemed essential.

(7) Finally, in regard to maintenance the Chief Engineers feel that they should have full discretion in the matter of preparation and sanction of maintenance estimates subject to their satisfying the Centre as to the reasonableness of an average milage rate, excluding the requirements for special repairs. It was agreed that the maintenance demands and booking would be made under the main Heads "Repairs Ordinary", "Renewals" and "Repairs Special".

Sd/- G.A.D.Cochrane.

28/11/46.

Note on the Road Roller Bulk Procurement Scheme for Chief Engineers' Conference - 26th and 27th November 1946.

Position and Last Year.

1. At the time of the Chief Engineers' Conference in October 1945 the position regarding procurement of road roller was as follows:-

(a) A number of indents had been placed by Provinces and States on the D.G.M.P. The D.G.M.P. had in turn placed orders on the D.G., I.S.D. in U.K.

(b) War Transport Department had placed on the D.G.M.P. a bulk order for 500 rollers, which he had placed on the D.G., I.S.D. From this bulk indent allocations had been made to Province and States.

(c) It was proposed that the D.G.M.P. should place an order for rollers in U.S.A.

(d) A considerable number of rollers was expected to become available from army surpluses, both those under the Engineer in Chief and those from the U.S. forces in India.

(e) A scheme was under consideration for manufacture of road rollers in Indian Ordnance Factories, whose productive capacity had been set free owing to the end of hostilities.

(f) With a view to future development of the manufacture of rollers in India the D.G.M.P. had been asked to place "educational" orders on two or more Indian firms for complete manufacture of rollers.

Imports from U.K.

2. The total number of rollers under items (a) and (b) above indented for by the D.G.M.P. on the D.G., I.S.D. in U.K. was 988. Owing apparently to the difficult conditions in post-war British industry some delay occurred in the placing---

placing of firm orders by the D.G., I.S.D., and ultimately it was only found possible to obtain 250 rollers on reasonable delivery terms (100 Marshall and 50 Aveling-Barford). Of these about 32 diesel rollers have already arrived in India. Delivery of the steam rollers and of the remaining diesels is expected to be completed within the next 6 to 9 months. The main cause of delay appears to be the difficulty in obtaining shipping space. The Department of Industries and Supplies has been asked to take up this matter with the appropriate authorities in the U.K. with a view to speeding up deliveries. After arrival at Indian ports there is also some unavoidable further delay in clearing, assembling and railing the rollers to the ultimate consignees. The Department of Industries and Supplies have made arrangements with the Indian representatives of the British manufacturers concerned to carry out this work of clearing and delivery in order both to reduce delays to the minimum and also to ensure delivery of the rollers in satisfactory condition to the consignees.

Import from U.S.A.

3. With a view to ensuring smoother delivery arrangements and satisfactory service during the life of the rollers, it was decided not to purchase rollers in the U.S.A. through the Indian Purchasing Mission in Washington but to place orders for rollers of American manufacture on certain firms in India who are accredited local agents of the American manufacturers. Orders for a total of 159 rollers of American makes have been placed in this way on two firms, viz. 50 Gallon through Simpsons of Madras and 109 Austin-Western through William Jacks. The delivery of these rollers was delayed to some extent by labour troubles in the U.S.A. The main difficulty however as in the ---

as in the case of Imports from U.K. appears to be shortage of shipping. Availability of space for rollers is even less than in the case of the U.K. The first deliveries are expected before the end of 1946 and delivery of the rest should be completed during 1947

Disposals.

4. Contrary to expectation no read rollers have hitherto become available from either American or the Engineers-in-Chief's surplus stocks. In the case of the Engineer-in-Chief any rollers surplus to military requirements have in the first place been utilised for replacement of those rollers requisitioned from Provinces, States, local bodies, etc. which have been written off or have been found to be untraceable. As far as can be ascertained at present the position is that all requisitioned rollers have been or will be returned or replaced in kind, but that after this has been done few if any serviceable rollers will be available from the surplus stocks. Any which are declared available however, will be distributed along with the new supplies.

Production in India.

5. A Mission of road roller experts from the U.K. was invited by the I. and S.Dept. to visit India and report on the practicability of using Ordance Factories for the manufacture of rollers. As a result of the Mission's opinions and of subsequent discussions with the I. and S.Deptt., in some of which the Consulting Engineer (Roads) was associated, it has been decided to produce 1000 steam and 500 diesel rollers in India on the following basis. Certain essential components, notably boilers and diesel engines, for which there is no appreciable existing productive capacity---

city in India, will be supplied from the U.K. by two leading firms, viz. Marshalls and Aveling-Barfords. Components amounting to some 30% of the complete roller in each case will be manufactured in Indian Ordinance Factories, to drawings and specifications supplied by Marshalls and Aveling Barfords respectively. Assembly of the steam rollers will be carried out by the Tata Engineering and Locomotive Co. in conjunction with Marshalls (India) and that of the diesel rollers by Jessop and Co. These firms will also manufacture the remaining components not either imported or made in Ordinance Factories. The advantage of this scheme is that while the maximum utilisation is made of Indian productive capacity, the rollers will be made to well established and proved designs. The long delays inevitably associated with development of new designs will be avoided and the importation of critical components will permit of much earlier deliveries than would be the case if arrangements for the production of such components had to be established and developed in this country. Planning in connection with this project has reached an advanced stage and some of the components to be imported have already been manufactured in U.K. Actual manufacture of components in India is expected to commence very shortly as many of the drawings have already been received .

"Educational Order"

6. The D.G.M.P. about a year ago called for tenders for the "educational" order of 12 steam and 12 diesel rollers, to be completely manufactured in India. Results were somewhat disappointing but ultimately a contract has been made with Aveling Barford engineering Works, Satara, in conjunction with [illegible] for the manufacture of 24 diesel rollers. As far as is known at present no other "educational" order has been placed, but the

Transport---

Transport Department have intimated to the D.G.I. and S. their willingness to sponsor and order for a further 24 rollers to make a total of 48 in all.

6. Import from Australia.

7. In December 1945 an offer was received from an Australian firm, M/S. Malcolm Moore of Melbourne to supply rollers of Australian manufacture fitted with English-made Fordson engines. As by that time it had become apparent that it would be desirable to supplement the sources of supply already under consideration, and as the Australian rollers were offered at a relatively cheap price and with early delivery, an order for 250 of these rollers was placed on the firm by the I. and S. Department, on the advice of the War Transport Department. Delivery of these rollers has commenced and 37 of them have already landed in India. Providing shipping is available the remainder are expected to be delivered at a rate of 15 to 20 per month. These rollers were originally described as being kerosene-driven, since the type of fuel commonly used in these engines is known in Australia as "power kerosene". Actually this fuel is known in the U.K. and elsewhere as "vapourising oil" and has not hitherto been sold in India by the oil companies. It has been ascertained that the oil companies are about to import stocks into India for agricultural tractors and also for use in these Malcolm Moore rollers. It is not known what the arrangements will be for distributing this oil in districts away from the port of entry nor what the sale price will be. Until this vapourising oil however becomes generally available the engines can be made to run quite satisfactorily either on a good quality of kerosene as used for lighting or on high-speed fuel oil. Alternatively--

Alternatively the engines can be adapted by a slight modification to run on kt petrol. When the rollers were described as kerosene driven certain objections were raised to them by Provincial indentors on the grounds of the difficulty of procuring kerosene and the unpopularity of x using in these machines what is practically an article of household rations. In view of the wide range of fuels however which, as described above, can be used for these rollers, it is considered there should be no difficulty in running them, The general design of these rollers, ~~hitherto~~ hitherto new to this country, is sound and workanlike and the fact that the engine is identical with a type used in tractors and a number of other machines should greatly facilitate the supply of spare parts.

Disposals from U.K.

8. After the provision of a total of 2207 rollers from various sources as set out in paras 2 to 7 h above had been made by the I. and S.Department on the advice of the Transport Department, information was received of a number of rollers of American Lease-end origin available for sale in the U.K. These rollers were unused and in original packing although they had been in store for some months, and they were offered at a very reasonable price. In addition to the above bulk provision therefore a special purchase of 60 Buffalo-Springfield rollers from the U.K. has been made. It was originally hoped that the whole of these would have been in the hands of users by October this year, but here again shortage of shipping appears to have been the cause of delay. Some of these rollers are however now on their way and delivery of the whole number is expected within a month or two. These are being cleared and delivered to indentors in India through M/S. Volkart Brothers who are the Indian agents ---

dian agents for Buffalo-Springfield rollers.

Offers from Trade.

9. With reference to the disappointing delays in the delivery of rollers under the bulk scheme, it may be mentioned that various letters have been received by the Transport Department stating that rollers are now available for direct purchase from firms with immediate delivery. In some cases indentors have even gone so far as to suggest cancelling some of their indents already placed on the D.G.I. and S. Chief Engineers would be well advised to investigate very carefully any promises made to them of early delivery of rollers through channels outside the I. and S.Dept. bulk provision scheme. As mentioned above shortage of shipping space forms a severe bottle neck on imports and the Government of India will naturally do all in its power to ensure that imports under the bulk scheme, which on receipt will be distributed equitably among indentors and with due regard to urgency of need, should have priority over trade imports the distribution of which cannot be controlled and which might in fact go to purchasers with very low claims to priority. In one case at least the firm concerned was held enough to advertise rollers for sale with early delivery when they had not in fact even obtained an import licence and this licence was in due course not issued to them.

Distribution.

10. It is unfortunately not possible at this stage to lay down how rollers from the various sources are going to be distributed. The distribution is made much more difficult by the fact that very little reliance can be placed on any forecasts of deliveries whether as to date or destination, but every effort is made to ensure as reasonable and fair

a ---

a distribution as possible. The factors considered in allocating the available supplies as and when they come to hand are:

(a) Urgency of need, as indicated by the proportion of rollers in hand to rollers required given in the forecasts submitted by Provinces in response to War Transport Department's No.PL57(23) dated 31/1/46.

(b) Desirability of standardising rollers by groups of types in definite geographical areas, in order among other things to facilitate service and the supply of spare parts. The attempt to ahieve a high degree of standardisation would conflict with the claims of priority of need but it should at least be possible to avoid too great a mixture of types in any one Province.

(c) Port of arrival of consignments. This can in some cases be controlled but in other cases, e.g. shipping from Australia, it is essential to load any available ship sailing from the country of origin in order not to lose shipping space, more or less irrespective of the Indian port of arrival.

(d) Priority of date of indent. This usually bears a relation to the urgency of the need as mentioned in (a) above.

(e) The "Nagpur percentages" of the various Provinces and States.

Specifications.

11. With regard to specifications Transport Department have after making various tentative suggestions and after obtaining advice from several quarters produced their specifications MPS-1 and MPS-2 for steam and diesel rollers respectively. The rollers produced in India will conform closely to these specifications. The imported rollers however will be of the makers" standard designs, generally similar to this Department---

Department's specifications but differing from them in certain particulars. This is necessary in order to ensure deliveries within a reasonable time. Particular attention is drawn to the fact that the range of weights being proved under the I.and S.Department ~~kmik~~ bulk scheme is much less than the range found among rollers existing before the war in this country. Instead of varying total weight however, provision has now been ~~made~~ for altering the ~~f~~ ~~rxxiax~~ rolling pressure as measured in lbs. per inch width. This veriation is obtained by various methods of altering the distribution of ballast, and should give satisfastory consolidation results with a wide variety of soling, metal or chippings while yet preserving the advantages of standardisation of the roller as a whole. The rolling pressures may be varied between 350 lbs. per ~~xx~~ inch width. When rollers of this type have been in~~x~~ service for a reasonable length of time the views of Chief Engineers will be asked as to whether further modifications in the Department's specifications is desirable.

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Below summary of Proceedings of the Chief Engineers' meeting held on 26th and 27th November 1946 at New Delhi.

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Office of the Chief Engineer,
Public Works Department,
No.10/46-W. Poona No.1, 26th March 1947.

Copy together with copies of Appendices I to V thereto forwarded to the Secy. to Govt., Public Works Department, Bombay, for information..

2. Blue prints showing scales of pay of superior Engineer's services, other than I.S.E.- vide appendix No.III and of technical shubordinate services-vide appendix IV also accompany .

3. It is stated by the Deputy Consulting Engineer to the Government of India (Roads) that further action, where necy.---

necessary in his office, will be intitiated as early as possible.

Sd/-

26/3

for Chief Engineer,

Public Works Department.

...

3. The remaining paras in the summary of the proceedings of the meeting of the Chief Engineers do not also call for any remarks. Perusal in this connection is solicited of the conclusions of the C.Es' meeting at pages 11/17 ante. In forwarding these proceedings to Government the C.E.,P.W.D., has stated that the Dy.Consulting Engineer to the Government of India (~~Orders~~ Roads) will initiate further action where necessary.

4. A further meeting of the Chief Engineers was held at Trivandrum, on the 11/2/1947 and the minutes of the meeting have been forwarded to the C.E.,P.W.D. for remarks vide G.L. No.8566/36-II-C(II), dated the 3/5/1947, ~~continue~~ amd in file No.8566/36-II, placed below.

5. In the circumstances stated above no further action on these papers is necessary.

Id/-
10/5/47.

.....

Id/-
10/5/47.

Road Rollers.-This Department has placed indents for in all 218 Rollers, through the G.of I's Bulk Procurement Scheme. Against these, 10 Malcolm Moore Rollers and 16 Marshall Rollers have so far been supplied. 10 Buffalo Springfield Rollers and 4 Austin Western Rollers have also arrived and are awaiting inspection and despatch to their ultimate destinations.

Other Road making Machinery.- Indents have also been placed for 13 concrete mixers, 6 Asphalt mixers, 1 Asphalt Boiler and 4 Granulators. Against these, 6 Concrete Mixers, and 4 Granualtors have been supplied. One Asphalt Boiler has been inspected and is awaiting despatch.

Return of loaned Road Rollers.- Out of the 99 road rollers loaned---

rollers loaned to the Central P.W.D. etc. only 15 rollers have been returned back. The Chief Engineer, Southern Command has "writeen off" the balance as unserviceable and has offered substitutes against them. The question of accepting these substitutes is under consideration as most of them are petrol road rollers which are not considered acceptable. The P.H.E. to Government has been asked to report on the performance of these petrol rollers and their convertibility to diesel oil.

Id/-
15/8/47.
Id/-
21/5

Id/-
3/6/47

Secy.(R.and B.)

Id/-
3/6

Secy.(I).

Id/-
6/8/47.

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Minutes of the Chief Engrs. meeting held on the 8th Decr.1948 at 2/30 P.M.at Constitution Club, Curzon Rd., New Delhi.

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PRESIDENT:

1. Shri A.N.Khosla, Chirman, CWINC (President).
2. Shri S.A.Gadkary, Member, CWINC.
3. Shri Mansingh, Member, CWINC.
4. " N.Govinda Rajan, C.E.(Special),Madras.
5. " A.R.Venkatachari, C.E.,Madras.
6. " N.P.Gurjar, C.E.Bombay,
7. " S.K.Guha, C.E.,West Bengal.
8. " Romesh Chandra, C.E.,Assam.
9. " D.Mehta, C.E.,Bihar.
10. " Balbir Singh, C.E.,United Provinces.
11. " E.G.Mackie, C.E.(Electricity),C.P.& Berar.
12. " S.S.Kumar, C.E.(Elec.),East Punjab.
13. " G.Sundaram, C.E.(Elect.),Madras.

14. Shri R.R.Handa, C.E.Orissa.

15. Shri J.C.Hardikar,C.E.,Hyderabad(Deccan)

16. Shri Kanwar Sain,C.E.Bikaner,

17. Shri Raghbir Singh,C.E.,Patiala.

18. Shri N.K.Bhonsale, C.E.,Madhyabharat.

19. Shri V.A .Aiyar, Chief Development Engr.,Rajasthan.

20. Shri U.J.Bhatt,C.E.,Saurashtra.

21. Shri Kishorelal, C.E.,Jodhpur.

22. Shri B.Krishna Rao,Irrign.Adviser,Bhopal.

23. Shri S.D.Khungar, D.C.S.& O/S.,East Punjab.

24. Shri B.M.Venkob Rao Secy.to Govt.of Bhopal.

25. Shri P.B.Advani, Elec.Commr.,Bombay.

26. Shri R.P.Mathur,Dy.Dir.General(Supplies),New Delhi.

27. Shri K.C.Khosla, Dir. of Supplies,D.G.(I&S) New Delhi.

28. Shri H.R.Bhatia,Project Engr.,East Punjab.

29. Shri S.L.Malhotra,Liaison Officer, East Punjab.

30 Shri A.C.Mitra, Superintending Engr.,United Provinces.

31. Shri Radhey Shiam, P.A.to C.E.(Irrign.),United Provinces.

32. Shri H.S.Kulkarani, Project Officer,C.E.C.,Simla.

33. Shri Hamidullah Khan, Secy.Rampur(Canals).

34. Shri P.G.Joglekar, Supdg.Engr.,Chambal Scheme,Madhyabharat.

35. Shri H.M.Antani,Irrign.Engr.,Kutch.

36. Shri M.D.Mithal,Dir.(Irrign.), CWINC.

37. Shri A.R.Khanna, A.C.E.,CWINC.

Shri A.N.Khosla presided.

1. Shri A.R.Khanna gave a brief resume of the requirements of cement, steel and H.S.Diesel oil for the river development projects in provinces and states as detailed in his note supplied to Members. He explained the various statements enclosed with his note on "our resources and requirements for the next five years for River Valley Development".

The ---

The president explained that the object of the Conference was to get a clear picture of our actual requirements for the next five years and to see how far these requirements can be met from our resources.

2. Shri Kulkarni explained that the C.E.C. were going into the requirements of steel for transmission lines, etc. for the electrical portion of the new projects only. He added that it was necessary now to define the dividing line between the requirements being supplied to CWINC and C.E.C. In any case, it would be best to have a clear picture and know the overall requirements.

3. Shri Krishna RaoRao wanted to know the particular substitutes being considered for steel, cement and H.S.diesel oil.

Sardar Mangingh replied that timber for steel, lime for cement etc. could be used as substitutes in some cases and to that extent our requirements could be reduced.

4. Shri Mathur explaining the position regarding steel allocations suggested that he could help us to some extent if we could indent on him for the steel required for fabrication purposes like towers, gates, etc. out of the quota for steel required for steel processing industries. He added that it was however necessary that fabrication is done by the contractors under the control of D.G.(I.and S.) As some of the provinces have their own workshops capable of undertaking fabrication for their works, it was suggested that all such workshops may be brought on to the list of contractors to whom steel for fabrication could be supplied out of the quota for steel processing industries, though fabrication will be done in these workshops under control of the local officers. Shri Mathur promised to do his best in case reference on the above lines is made to D.G.(I.& S.)

Shri Mathur sounded a note of warning against the suggestion of using timber as substitute for steel. He said that price of timber was soaring high and supplies were very short. There were the added difficulties of transport as bulk of our requirements had to be met from Kashmir.

He further stated that there were some stocks of steel available for import from abroad.

Shri Khanna at this stage read out a letter from the Iron and Steel Controller in which he had given the rate of imported steel as Rs.600/- per ton which is more than double the rate for the Indian steel. This rate was considered too high.

5. Shri Govindarajan speaking of his experience regarding fabrication in connection with the Tungabhadra project said that he could easily fabricate gates, etc. required for his projects at his own workshops provided steel could be made available to him.

6. The President pointed out that allocations during 1948 of only about 1% of total steel resources of the country for the river valley projects, was highly unsatisfactory and shall have to be taken up with the Government of India. He requested the provinces and states to confirm, if the figures given in the statements in their hands were upto date or required any changes before the matter could be persued further.

7. There was a general feeling that the figures regarding requirements of steel, cement etc. as supplied by some of the Provinces and States were not complete and upto-date. It was, therefore, decided that all Provinces and States should be asked to vet their figures and give requirements of steel separately for irrigation and hydro-electric portions of the projects under their control, like Power--

Power-houses, transmission-lines, etc.

8. At this stage the President requested Sardar Mansingh to introduce the item regarding setting up of a Central Agency for purchase of machinery.

9. Sardar Mansingh stated that in the August meeting the question ~~the~~ was raised whether the purchase of machinery should be canalised through a central Agency. Majority of the C.Es. were in its favour except two or three who thought it best for each Province to get its individual requirements independently. He added, that on page 5 of the minutes of the last meeting will be found some suggestions, made about setting up of a Central Agency for procurement of machinery and plant. Sardar Mansingh then read out relevant portions from the minutes of the previous meeting.

10. Shri Advani stated that in case of electrical equipment ~~x~~ that was of a specialized nature and where specifications had to be drawn by the officers in charge of the work, the plant could not be ordered by the central ageney He added that the Central Agency should collect all the information regarding the basic terms on which the manufacturers will accept orders, the actual technical derails and the prices offered, terms of delivery dates, but the provinces concerned should place their orders direct with the manufacturers.

He further added that the recent experience has shown that the foreign firms have now formed a sort of price ring defeating the pruposo behind calling tenders. He suggested that we should try to come to an agreement with foreign manufacturers to supply us materials at the price that they charge from the British Electricity Board.

11. Shri Gadkary suggested that the Central Agency should not be too rigid. The provinces that specialize in certain types of ---

types of electrical engineering should be left to make their own arrangements. Centre can, however, help the provinces whenever such help was sought for.

12. Shri Mathur replaying to the arguments raised against the Central Agency said that there seemed to be a certain amount of misunderstanding about the functions of the D. G.(I & S). He explained that they were only agents on behalf of indenters. They have a band of engineers who scrutinize the tenders, prepared specifications, etc. when necessary, inspect the erection and render all other help required of them. If there were any short-comings these may be pointed out to him and he would be too pleased to effect improvements on their suggestions. He added that the indentors could contact the manufacturers direct if they so desire, but it would be far better if they could utilise the services of his Department that has specialised hands. Their assistance would facilitate early deliveries of machinery, dollar credit, etc. as they were in a position to demand certain reciprocal services from the manufacturers. The indentor is, however, always associated with the various stages of the negotiations.

He added that the central purchases would further help in pooling our resources together and, getting the best for our money and buying only such equipment from abroad, that is not available in the country.

13. Shri Govindarajan however expressed his doubts and said that it was the man on the spot who knew his requirements best and could purchase the particular type of machine best suited to his requirements.

At this stage Shri Mathur pointed out that in future no individual indentors including provinces and States would be ---

be allowed to place their indents direct with I.S.M.(Washington) or D.G.I.S.D.(London).

14. Shri Venkatachri suggested that they should have rate contracts for machinery as well, after which Provinces could place orders direct. Probably machinery could be divided into say three categories.

15. Shri Mathur replied that they could have such contracts only if the purchases were consolidated through a Central Agency so that rates and types of machines required for different jobs could be specified on the experience gained. After discussion it was decided that the time was not yet ripe to draw up rate contracts for the type of machinery required for river development projects.

16. Shri A.C.Mitra enquired if the list of firms and manufacturers being maintained by D.G.(I.&S) was confidential to which Shri Mathur replied in the negative.

17. Shri Mitra further enquired the reason for prohibiting Provinces to place their indents direct on I.S.M.(Washington) or D.G.I.S.D.(London) except through D.G.I. & S.(Delhi), to which Shri Mathur replied that the idea was that indents whould be placed on foreign firms only if the particular stores were not available within the country and D.G.(I.& S) Delhi, was in the best position to advise on this account.

18. The president explained that the whole idea was to pool our resources whereby we could have the best services and also the best materials required for our works. One should however be cautious that by laying too much stress on centralisation certain xp provinces are not put to unnecessary trouble. He thanked Shri Mathur and Shri Khosla for kindly attending the meeting and explaining the position clearly.

19. The position regarding cement was next explained by Shri A.R.Khanna. It was felt that lack of adequate transport facilities also--

facilities also added to the difficulties regarding shortage of cement.

20. After discussion it was decided that the Provinces and States may supply figures showing the indents for cement placed by them concerning irrigation project during the calandar year 1948 and total quantity of cement alletted to them during the year. This would enable us to examine the cement position as in the case of steel.

22. Shri A.R.Khanna next explained the position regarding petroleum products as detailed in his note. It was decided that the petroleum officer to the Government of India may be asked to confirm that the allocation of H.S.Diesel Oil was controlled by him and that the requirements of river development projects shall get a high priority say next to Defense.

22. It was further agreed that requirements of petrol may also be supplied to CWINC by the Provinces and States as in the case of steel, cement and H.S.Disel Oil.

23. Sardar Mansingh pointed out the necessity of coordination between the materials to be carried and actual railway transport available. It was decided that requirements of railway transport facilities needed for the essential materials may also be worked out and communicated to C.W.I.N.C.

24. In conclusion, the President stressed that the Provinces and States may

(a) scrutinize their requirements of steel, cement, H.S. Disel Oil, Petrol and railway transport required for the irrigation projects, bring them up-to-date and communicate the same to C.W.C-N.C.

(b) requirements of steel may be shown separately for the irrigation works and hydel part of a project like pen-stock

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stocks, transmission lines, etc.

(c) requirements of essential materials may be staggered as far as possible keeping in view the resources of the country both existing and as anticipated.

(d) progress charts as prepared by CWINC may also be scrutinized and brought up-to-date. The project should be grouped separately under the heads:-

(i) In progress

(ii)Sanctioned but not yet started

(iii) Under sanction

and (iv) Under preparation.

.....

P.K.M.

I.B.(II). 8566/36/3355
P.W.Deptt.

Submitted together with serial No.2465.

2. While forwarding a copy of the minutes of the Chief Engrs. of Provinces and States held at New Delhi on the 8th December 1948, the C.W.I.N.C. has asked to furnish information in respect of the following items:-

(i) the quantity of cement indented for irrign. projects during the calendar year 1948 and the total quantity allotted during the year.

(ii) requirements of steel, cement, H.S.Diesel oil, petrol and Rly. transport required for irrigation projects.

(iii) requirements of steel for irrign. works and hydel part of a project like pen-stocks, transmission etc.

(iv) progress charts as prepared by C.W.I.N.C. should be scrutinised and brought up-to-date under the following heads:-

(a) in progress.
(b) sanctioned but not yet started.
(c) under sanction.
(d) under preparation.

(v) workshops under this Government's control giving their capacity, output and strength of personnel.

(vi) the question of utilisation of the services of the Department of Industries and Supplies, Govt. of India, for the purchase of plant, machinery and other equipment required for the projects under control of this Government.

Item (ii).- The necessary information re: the requirements of steel, cement and petroleum products has already been furnished once to the C.W.I.N.C. very recently vide G.I.No.9282/36-(I)-I.B.(II), dated the 14/1/49. The Commission's attention may, if approved be invited to this. As regards the requirements of Rly. transport the Commission may be informed that it is not possible to state at this ---

at this stage the exact requirements.

Item (iii). The statement atp.15 ante gives the requisite information. A copy of the same may be furnished to the Commission.

Item (iv). Six monthly progress report for the period ending 31/12/1948 in respect of Major Irrign. schemes included in the P.W.R. Programme has been ~~xxxxx~~ called for the S.Es. of Circles concerned in the form prescribed by the C.W.I.N.C. and is awaited from the S.Es., D.I.C. C.R. and K.I.C. On receipt of the reports from them the requisite information will be furnished to the Commission.

Item (v). The P.H.E. to Government may be asked to furnish this information.

Item (vi). In this connection please see item (iv) of para. 2 of G.L.No.0/40718-I.B.(II), dated the 3/8/48, wherein we have pointed out to the C.W.I.N.C. the disadvantages of making purchases of plant, machinery etc. through a central agency. The C.W.I.N.C's attention may, if approved, be invited to this.

Id/-
27/1/49.

Through Con.Br. and D.E.(I).

Iteam (i) - The P.H.E. to Government and the S.Es. of circles may be asked to furnish this information to which may be consolidated in this office after receipts of their reports. The necessary draft is put up for approval.

Id/-
28/1/49.

Through D.E.(I)

Id/-
29/1/49.

Id/-
1/2/49.
Id. 2/49.

Govt. have since approved the purchase of the plant machinery etc. ~~xxx~~ through a central agency. The C.W.I.N.C should be informed accordingly and not as per note against item (vi) above.

Id. 2/2/49.

No.8566/36-I.B.(II). P.W.D.
S.C.,10th Feby.,1949.

To

The Assistant Consulting Engineer,
C.W.I.N.C.,New Delhi.

Subject:- Minutes of the meeting of Chief Engineers of Provinces and States held at New Delhi on the 8th Decr. 1948.

Sir,

With reference to the correspondence ending with your D.O.letter No.SP-10-13(A), dated the 15/1/1949 addressed to the Chief Engineer to the Government of Bombay (Irrigation), I am directed to state that this Government has appd. the purchase of Plant, Machinery and other equipments reqd. for the projects through a Central ageney.

2. Information reg: the requirements of steel, cement, etc., refd. to in para.24(a) of the minutes, has already been furnished to the Commission under G.L.No.9282/36(I)-I.B.(II), dated the 14/1/49. It is not possible to state at present the exact requirements of Rly.transport that may be necessary to carry out steel, cement, etc.

3. A statement showing separately the requirements of steel for the irrigation works and hydel part of a projec like pen-stocks, transmission lines, etc., is sent herewith.

4. Information reg: the quantity of cement indented and allotted for irrigation works during the calendar year 1948, the workshop under control of this Government and that refd. in para. 24(d) of the minutes is being called for from the local officers and will be furnished to you when recd. from them.

Id/-
8/2/49.

Yours faithfully,

Id/-
9/2/49

ment.

very urgent. Letter. P.W.D.

S.C.,10th Feby.1949.

To

The P.H.E. to Govt.

Subj:- Dapuri Workshop.

.....

You are requested please to furnish information reg: the capacity, output and strength of personnel at the Dapuri workshop and also to state whether it is possible to undertake fabrication of towers, (for transmissions lines) gates, (for dams, slinde and other) etc. for works of this Government if steel is made available for that purpose.

2. It is understood that such gates are manufactured in workshop of the East Punjab and tools are made in the workshops of Mysore and Madras.

Id/-
8/2/49.

Id/-

9/2/49.

Id/-

D.A.Nil.

LBW
8/2/49.

No.SP-10/13/C.
GOVERNMENT OF INDIA.
Central Waterpower, Irrign.
and Navigation Commission.
New Delhi, the 16th Feb, 1949.

To

Shri N.P.Gurjar,
C.E. Bombay.

Sub:- Minutes of meeting of Chief Engineers of Provinces and States held at New Delhi on 8/12/48.

...

Will you please refer to this office D.O.No.SP-10/13(A) dated 5/1/1949, forwarding minutes of Conference of Chief Engineers of Provinces and States held on 8/12/48, and expedite the information requested therein?

(A.R.KHANNA), 15/2/49
Asstt.Consulting Engineer,
Central Waterpower, Irrigation
and Navigation Commission.

Have we not replied to all these references.
Id. 21/2/49.

.....

8566/36/12817
P.W.D.

I.B.(II).

Submitted with reference to the Secy, (Irrgn) Commr.'s query dated the 21/2/1949.

2. The reply to the query is in the affirmative information that was available here has already been supplied to the C.W.I.N.C. The Commission has also been informed that the remaining information reqd. by it has been called for from the local officers and that it will be furnished to it when recd. from them; please see G.I. No.8566/36-I.B.(II), dated the 10/2/49.

3. Receipt of the replies to the G.Is. at pp.19/22 ante. may be awaited for a week more.

Id/-
24/2/49. Why not send a reply that such intimation has already been sent.

Id/-

24/2

No.8566/36-I.B.(II). Public Works Deptt.,
Bombay Castle, 7th March 1949.

From

S.V.Iyer, Esquire, B.Com.,
Assistant Secy.to the Govt.of Bombay,
Public Works Department.

To

The Assistant Consulting Engineer,
Central Waterpeer, Irrigation
and Navigation Commission, New Delhi.

Sub:- Minutes of meeting of Chief Engineers of Provinces and States held at New Delhi on 8th December 1948.

.....

Sir,

With reference to the correspondence ending with your letter No.SP-19/13/C, dated the 16th February 1949, on the subject mentioned above, I am directed to state that certain information that was available here has already been furnished to your under this Government letter No. 8566/36-I.B.(II), dated the 10th February 1949, a copy of which is enclosed herewith for ready reference. The remaining information required by you has been called for from the local officers and will be supplied to you when received from them.

Yours faithfully,

Id/-

8/3/49.

Assistant Secy. to the Govt.of Bombay,
PPublic Works Department.

D.A.-Copy of letter refd. to
and its accompaniments.

No.D.W.148/2416 of 1949.
Poona 4th March 1949.

To

The Secy. to Govt.,
Public Works Deptt., Bombay.

Sub:- Dapuri Workshop -
manufacture of gates at the --

Ref:- Government letter, Public Works Department No. 8566/36-I.B (II) dated 10th February 1949.

2. The work of manufacture of gates for dams and transmission towers etc. is not at present carried out on mass production bases at Dapuri Workshop, but such work is taken up when orders are received from different Executive Engineers. However the Workshops is fully equipped with machinery required for the above work.

If the drawings of the required towers, gates etc. are made available, definite figures of regular out put of these can be given. The total strength of technical personnel at Dapuri Workshop is about 175, out of this 40 are working in structural and fitting shops. If however, work on large scale is continuously forth coming, the technical personnel can be suitably increased.

Sd/-
Public Health Engineer
to Government.

D.A.Nil.
SIP/4/3/49.

.....

Copy f.w.cs. to the S.D.O.,Dapuri Workshops Sub-Dn.,
Dapuri for information.

.....

Major Irrgn. Projects included in the revised first five year P.W.R.Programme of Major Irrgn.Works.

.....

(I) Works in progress.

(1) Meshwa Canal Project,
(2) Mahi Canal Project
(3) Gangapur Storage Project,
(4) Ghataprabha Valley Development Project (Ghataprab Left Bank Canal).

(II) Works sanctioned but not yet started.

(1) Ranand Tank.
(2) Budihal Tank.
(3) Wardala Tank Project.

(III) Works under sanction.

Nil.

(IV) Works under preparation.

(1) Patadungri Tank Project.
(2) Vir Dam Project.
(3) Girna Project.
(4) Watrak Ganal Project.
(5) Raising of Chankapur Dam.
(6) Kukadi Project.
(7) Mula Project.
(8) Wajdare Project.
(8) Undirgaon Tank.

Id/- Id/-
9/4/49. 22/4/49.

.....

8566/36/16897.
I.B.(II). P.W.D.

Submitted.

2. Please see para 2 of the office note dated the 21/4/49. Information in respect of items (ii), (iii) and (vi) detailed therein has already been furnished to the C.W.I.N.C., vide G.L.No.8566/36-I.B.(II), dated the 10/5/49. In respect of the following items the information is to be furnished to the C.W.I.N.C.,

(i) the quantity of cement indented for irrgn. projects during the calendar year 1948 and the total quantity allotted during the year.

(iv) progress charts as prepared by the C.W.I.N.C. should be scrutinised and brought up-to-date under the following heads:-

(a) in progress.
(b) sanctioned but not yet started.
(c) under sanction.
(d) under preparation.

(v) Workshops under this Government's control giving their capacity, output and strength of personnel.

Item(i):- Please see the notes recorded on the linked case II (file No.5949/36-(1)/20993).

Item(iv): The C.W.I.N.C. has been furnished with the six

monthly progress report in respect of Major Irrgn. Schemes included in the revised P.W.R.Programme of Major Irrgn. Works for the period ending Decr. 1948, in theform prescribed by the Commission; vide G.L.No.9474/36-I.B.(II), dated the 18/3/49. The Commission desires that the progress report in respect of Major Irrgn. Projects should be furnished under four heads viz. in progress, sanctioned but not yet started etc., in the form prescribed by it. It will be duplication of work if the same progress report in respect of the projects is to be typed under four heads. In order to avoid this duplication of work it is proposed to invite attention of the Commission to the progress report already furnished to it and to send a copy of the list at page 37 ante which gives information regs the works in progress, works sanctioned but not yet stated, etc. It if for orders.

Yes, this may be done.
Id.27/4/

Item (V). The Commission may be informed on the lines of the P.H.E's letter dated the 4/7 March 1949.

Id/-
9/4/49. Through Con.Br.and D.E.(I).

Con.Br.

3. The information re: item I above is not complete and the S.E.K.I.E. is being addressed separately an case No.II (5949/36(I)/20993 & 24366). On receipt of the information a consolidated statement will be given to the I.B.II for submission of this case to the D.S. and Secy.(I).

Id/-
22/4/49.

Id/-
25/4/49.

Id/-
27/4/49.

I.B.(II).

Resubmitted with the necessary draft for approval.

Id/-
4/5/49.

Id/-
5/5/49.

Thro.D.E.(I).

Id/-
5/5/49.

....

P.W.D.
.C.,7th May 1949.

No.8566/I.B.(II).

To

The Asstt. Consulting Engr., C.W.I.N.C.,
New Delhi.

Sub:- Minutes of the meeting of Chief Engrs. of Provinces and States held at New Delhi. on the 8th December 1948.

Sir,

Ref:- Correspondence ending with this G.L.No.8566/36. I.B.(II), dated the 7/3/1949..

2. A statement showing the major irrigation projects under the heads (i) in progress (ii) sanctioned but not yet started, etc., as regd. in para. 24(d) of the minutes refd. to above, is forwarded herewith. An up-to-date progress report in respect of the major irrgn. projects, in the form prescribed by your Commission in Memorandum No.WI-110(14), dated the 30/9/48, has been furnished to you under this G.L. No.9474/36-I.B.(II), dated the 18/3/1949. There is no marked progress on the projects since the submission of that report.

3. As regards item (ii) of your D.O. letter No.SP-10/13(A), dated the 5/1/1949, addressed to the Chief Engineer and Secy. to the Government of Bombay P.W.D.(Irrgn.), I am directed to state that the gates for dams and transmission towers, etc. are manufactured at the Government workshop at Dapuri near Poona when orders for them are placed by the local officers of this Government. There is no mass production of the gates, towers, etc., at present. However, the workshop is fully equipped with the machinery regd. for manufacturing them. The total strength of the technical personnel at the workshop is about 175; out of this 40 are working in structural and fitting shops, and it can be increased if work---

work on large scale is coming forth continuously. Information regs the regular output of towers, gates, etc. will be furnished to you, if the drawings thereof are made available.

4. Information regs the quantity of cement indented for irrigation projects during the calendar year 1948 and the total quantity allotted during the year has been called for from the local officers and it is awaited from them. It will be furnished to you when it is recd. from them.

D.A.
one statement.

Yours faithfully

Id/-
4/5/49.

Id/-
5/5/49.

.....

P.K.M.